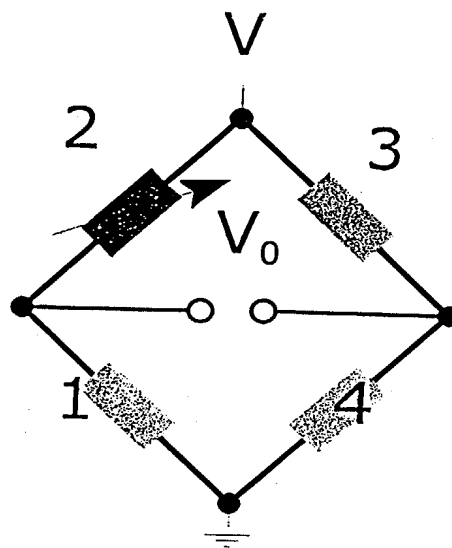
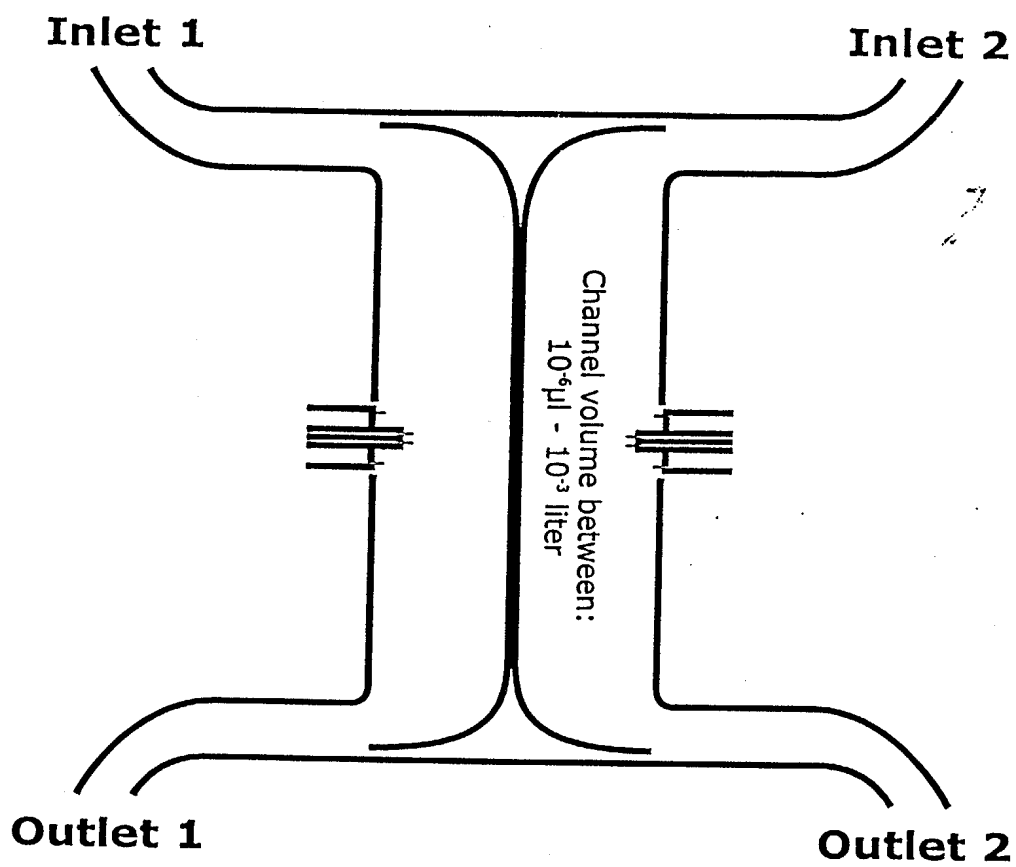






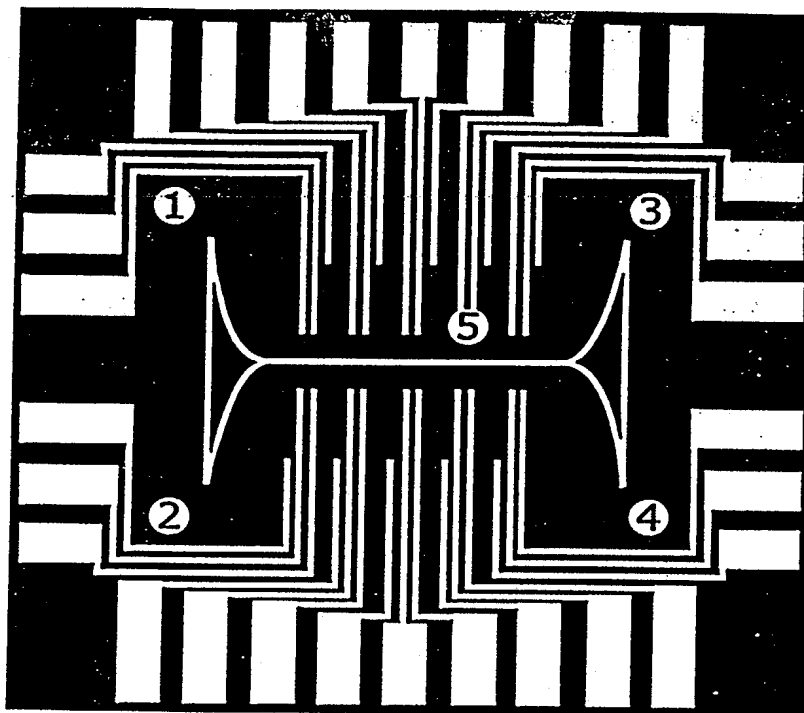
000000 7977600





Flow channel from above

A.



Micro-cantilever, enlarged

Channel volume between:  
 $10^{-6}\mu\text{l}$  -  $10^{-3}$  liter

B.



Micro-cantilever, actual size



Micro-cantilever

A

Probe

Gold surface

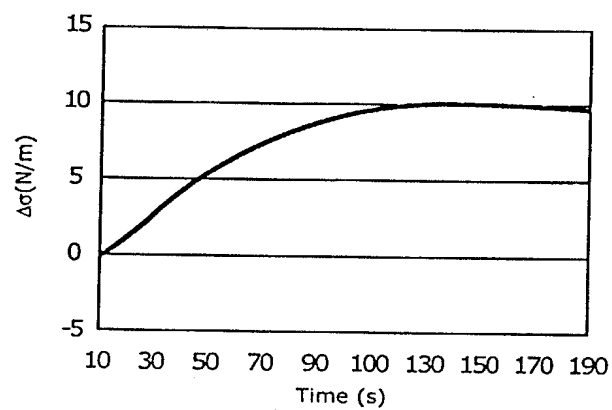
Micro-cantilever

B

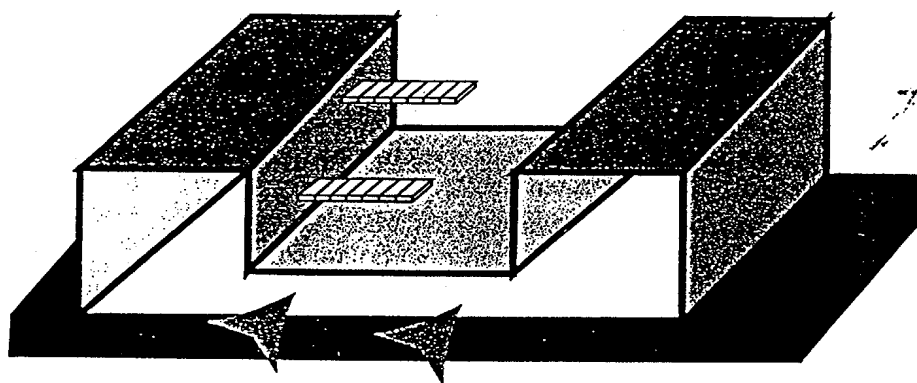
6

[illegible]

TABLE 7

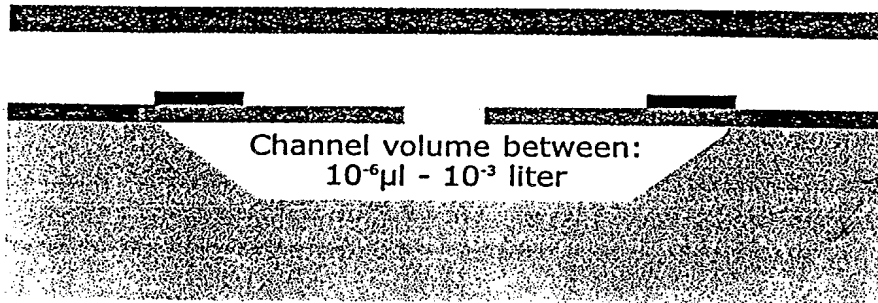


Channel volume between:  
 $10^{-6}\mu\text{l}$  -  $10^{-3}$  liter



Flow channel from side in 3D





**Flow channel cut-through**

**Flowchart  
for mutation  
detection**

**Time**

Isolation of genomic DNA

5 min.



Simultaneously PCR,  
cantilever hybridization and  
3' extension

1-2 hours



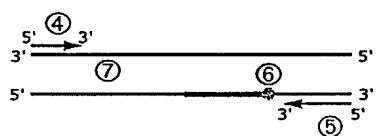
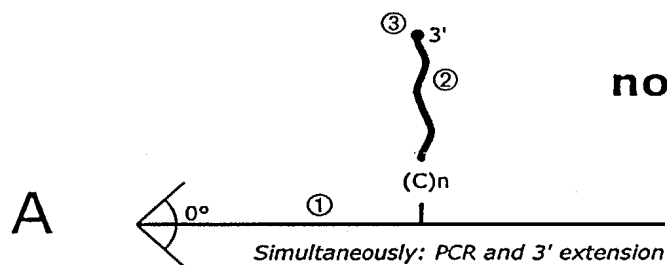
**Result**

Instantly

1. Normal
2. Heterozygous mutation
3. Homozygous mutation

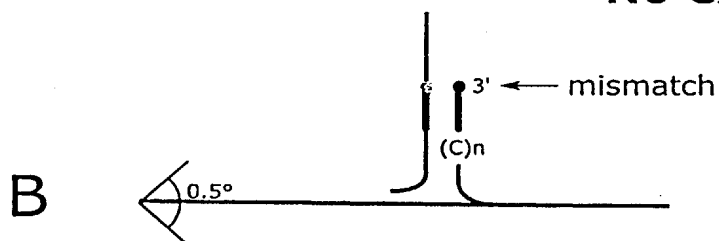
# Start material: DNA

**Normal  
no mutation**

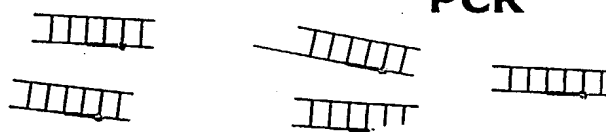


- ● Perfect match
- ● Mismatch

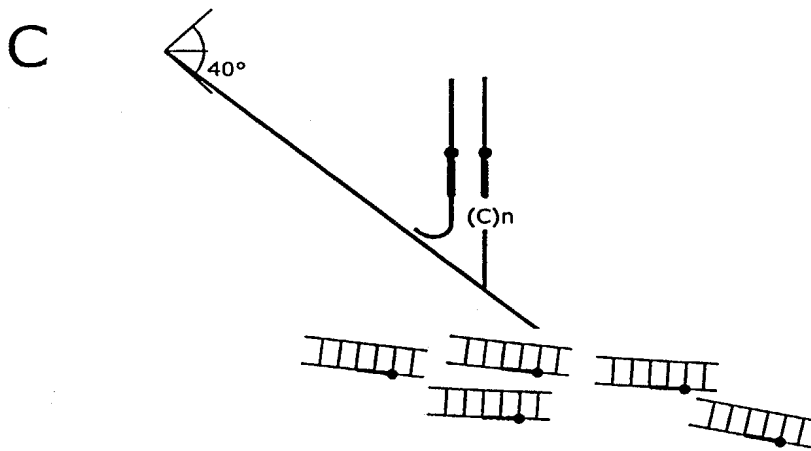
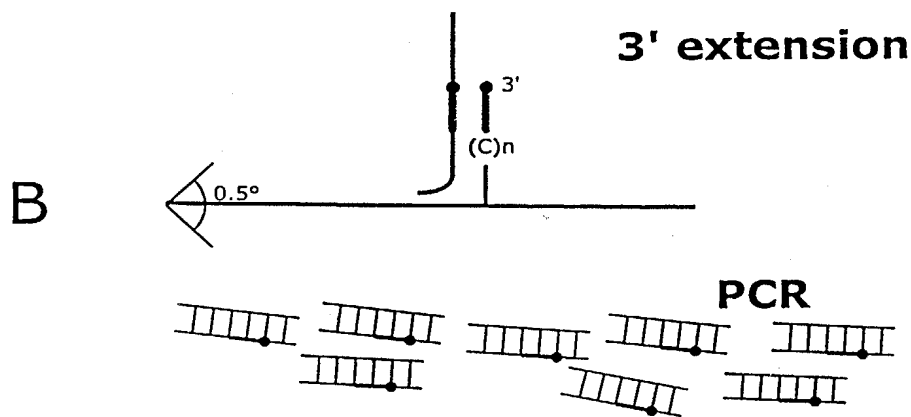
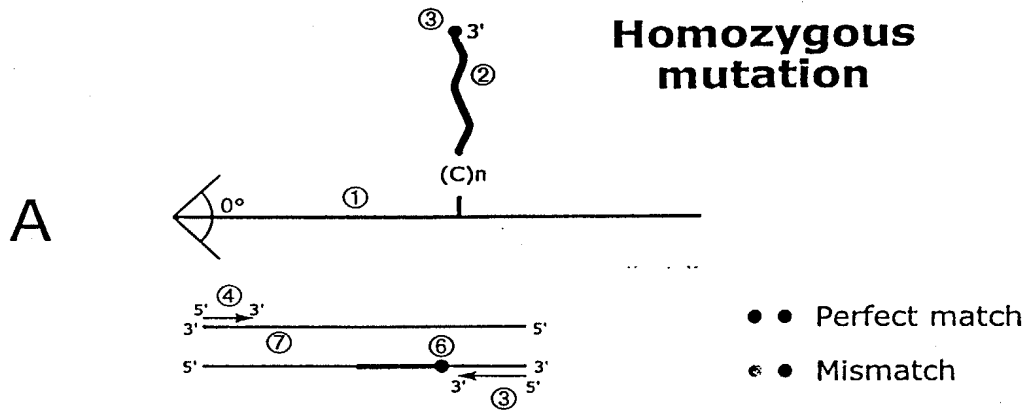
**No extension**



**PCR**

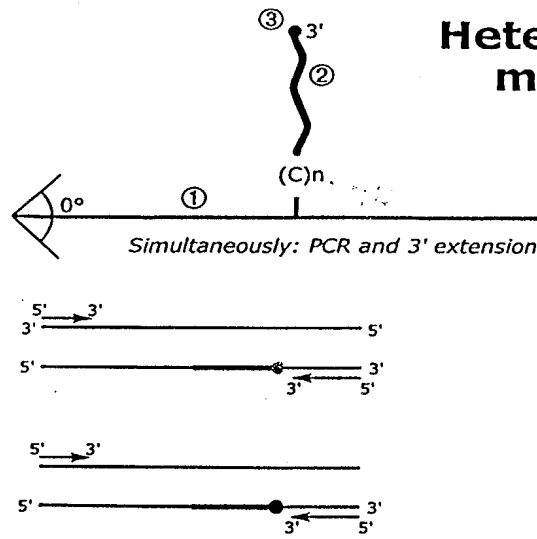


# **Homozygous mutation**

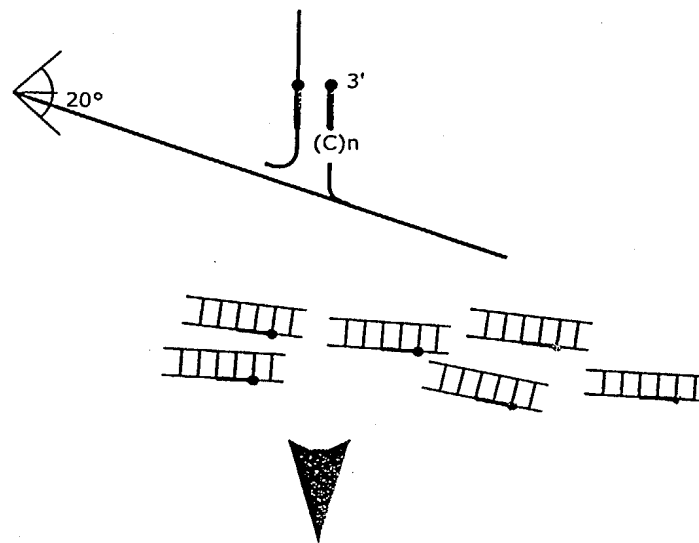


# Heterozygous mutation

A

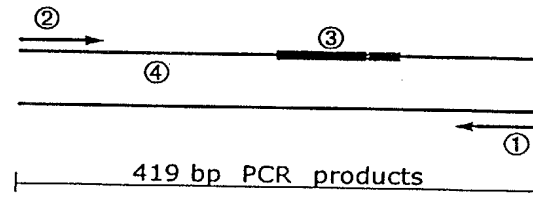


B



1/2 signal  
compared to  
homozygous mutation

**Detection  
of  $\Delta 508$  mutation  
of the Cystic Fibrosis gene**



**Flowchart  
for specific detection  
of RNA molecules**

**Time**

Isolation of RNA

30 min.

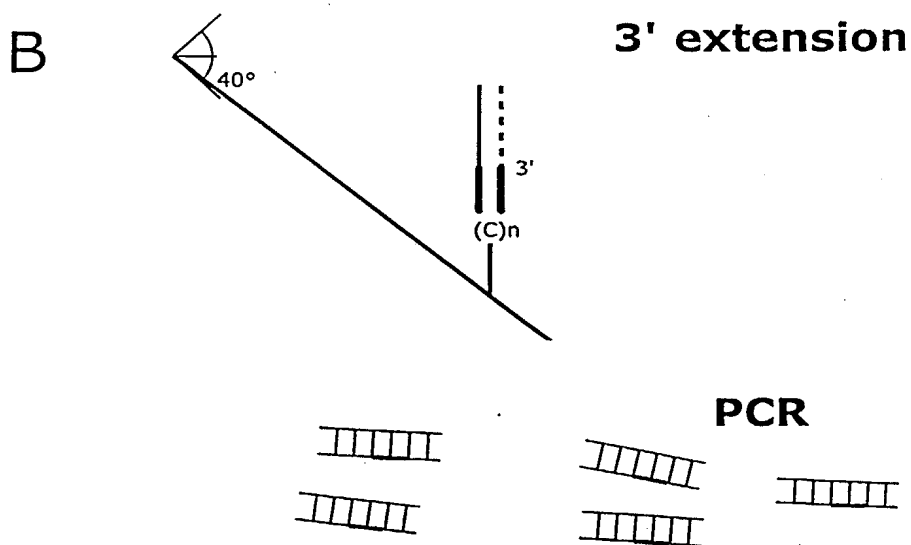
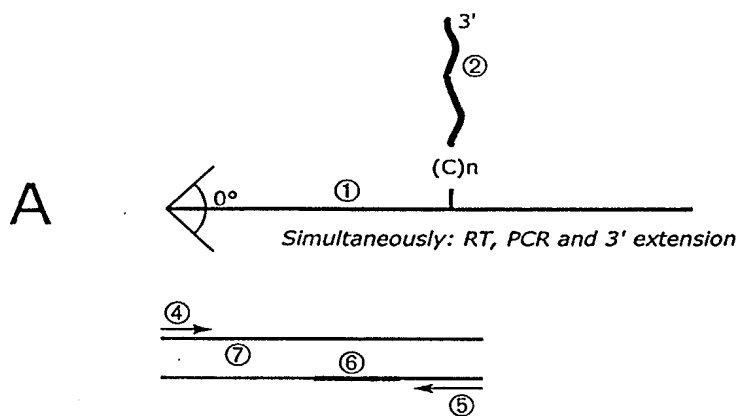
Simultaneously RT, PCR,  
cantilever hybridization and  
3'extension

1-2 hours

Result

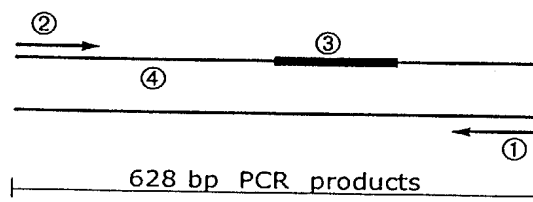
Instantly

# Start material: RNA





## Detection of Interleukin 6 (IL6)



# Detection of Glyceraldehyde-3-Phosphate- dehydrogenase (GAPD)

